notes, that I did not imagine there was anything unusual in the circumstance. The voice is a shrill "chirp," and the whole body and tail vibrate simultaneously with its utterance.

Madras, July 9 SURGEON

Halo

WITH reference to the very interesting remarks which Prof. Silvanus Thompson makes in this week's NATURE on the "halo" observed by me on the 16th as appearing over Dalkey Hill, I ask leave to give the correct bearing of the direction in which it was seen, L. 35° S. I may further remark that I never have seen anything similar in this country, though I had continuous occasions of observing halos in the Bay of Biscay from the coast. They seemed to be connected with dominating easterly winds there.

The weather during the week has been rainy and the temperature low for the season. J. P. O'REILLY

Royal College of Science for Ireland, Dublin, July 28

OUR ASTRONOMICAL COLUMN

THE SPECTRUM OF WELLS' COMET.—Dr. B. Hasselberg, of the Observatory of Pulkowa, in a letter to Prof. Tacchini, dated June 30, describes his spectroscopic examination of this comet, the results of which he shows to be of a very exceptional character. The observations were made on the nights of June 4, 5, and 7. The brightness of the nights at Pulkowa in the summer had influenced unfavourably his spectroscopic observations of the great comet of 1881, and the position of Well's Comet was also a disadvantage, so that he had not expected a prominent spectrum, and the more because observations by Prof. Tacchini and Dr. Vogel at the commencement of April did not promise much. His surprise was therefore the greater on finding a very bright and extended continuous spectrum of the nucleus, with an excessively strong yellow line, of which the micrometrical measures proved the perfect identity with the yellow line of sodium, line D of the solar spectrum. This was a result altogether new in cometary spectroscopy, and the more noteworthy because at the same time there were no traces of the three ordinary bands of the spectrum. It is confirmed by Dunér, Bredichin, and Vogel. In the middle of May, on the contrary, Vogel's observations show that the three bands were then present, though faint, while of the sodium line there was not the least trace. It is therefore necessary to conclude that during the last fortnight of this month the spectrum of the comet had changed in a manner of which the history of the science furnishes no precedent. Dr. Hasselberg then explains his views of the *modus operandi* of these changes, and concludes:—"Je crois, donc, que dans le cas actuel, la chaleur solaire n'a joué autre rôle que de faire évaporer le sodium contenu dans la comète, et que les phénomènes lumineux et spectraux observés ont été provoqués et entretenus principalement par des décharges électriques mises en jeu sous l'influence du soleil."

This comet is again under observation in Europe. Prof. Julius Schmidt observed it at Athens as early as July 4; he gives his daylight observations in detail in No. 2447 of the *Astron. Nach.*, but the excellent meridian observations made at Albany, U.S., render them of less importance than might otherwise have attached to them.

OCCULTATION OF A STAR BY JUPITER.—The star 4 Geminorum, which has usually been considered a seventh magnitude, but is 7·4 in the *Durchmusterung*, will be occulted by the planet Jupiter, on the morning of November 8, the phenomenon being favourably observable at the observatories of the United States. The apparent place of the star at the time, according to the "Greenwich Catalogue" for 1864, is in R.A. 6h. 3m. 25s.·59, Decl. + 23° 0′ 57″·8, and at conjunction in R.A. Nov. 7, 14h. 12m., Washington M.T. it will be 5″ south of the centre of the planet according to Leverrier's position. Assuming the accuracy of the places, the immersion may be observed in this country.

NOVA OPHIUCHI, 1848.—Prof. Holder obligingly writes from the Washburn Observatory, University of Wisconsin, on July 22:—"In your note of May 4, 1882, you ask for an estimate of the magnitude of the *Nova* of 1848, whose position is (for 1880·0) R.A. 16h. 52m. 47s. N.P.D. 102° 42′. I looked for this object on July 18, and found it by help of your allineations with three stars which I had copied in my observing list, but I had, however, no note of its magnitude. There are three faint stars near it.—

1. Mag. 13 in $p = 25° \pm$
2. ,, 13·5 in $p = 160° \pm$
3. ,, 14 in $p = 270° \pm$

The *Nova* itself is between 12·5 and 3·0 mag. according to my estimate, and has no colour.

This estimate proves that no very sensible change has taken place since 1875.

SCHROETER'S OBSERVATIONS OF MARS.—Prof. Bakhuysen announces the publication of Schroeter's "Areographische Beiträge zur genauern Kenntniss und Beurtheilung des Planeten Mars," a work which he had designed to publish himself, and had nearly completed at the time of his death, in 1816. The manuscripts and copper plates were in the possession of H. Schroeter, of Linsburg, near Nienburg on the Weser, a grandson of the astronomer, and Prof. Bakhuysen having heard, through Dr. Terby, of Louvain, in December, 1874, that he had some intention of disposing of them to a scientific institution, took measures to obtain them for the Observatory at Leyden; the authorities in that University favourably received the application made to them, and provided the necessary funds for the purchase, and early in 1876 the Observatory was in possession of the manuscripts of the "Areographischen Beiträge," with fourteen copper plates belonging thereto. The publication has been undertaken by the firm of E. J. Brill, of Leyden. Two-thirds of the work appear to have been twice revised by Schroeter himself, so that the greater part of it is issued in the state which it was designed that it should be by the author. Prof. Bakhuysen mentions in his "Prospectus" that he had newly reduced Schroeter's observations for the position of the axis of Mars, and found its longitude and latitude 352° 59′ and 60° 32′, which is in nearer agreement with Oudemann's reduction of Bessel's few measures than with the recent determination of Schiaparelli.

KOREAN ETHNOLOGY

AT a recent interview with Mr. Charles Marvin, M. Semenoff, vice-president of the Russian Geographical Society, remarked that "every annexation in Central Asia is a source of satisfaction to our scientific men. Fresh fields are opened up for research, and all this must naturally be of interest to persons devoted to science." Some such thoughts will probably have occurred to most ethnologists on hearing that Korea has at last broken through the barriers of exclusiveness and concluded commercial treaties both with England and the United States. Foreigners will doubtless for some time be restricted to the three treaty ports thrown open on the eastern and southern coasts, and to Seul, the capital, where British and American political agents will reside. But the opportunities thus afforded of studying the interesting inhabitants of this region cannot fail to be gradually extended, until the whole peninsula becomes accessible to scientific exploration. Meantime a few notes on the ethnical relations of the people to their neighbours will probably be acceptable to the readers of NATURE.

The term *Korea*, now applied to the whole peninsula, was originally restricted to the northern state of *Korié*, the Chinese and Japanese forms of which were *Kaoli* and *Korai* respectively. With the fusion of Korié, Petsi, San-kan, Kudara, and all the other petty states into the present monarchy about the end of the fourteenth century, the name of the northern and most important of these principalities was extended by Japanese writers to the whole country, while the monarchy itself, at that time subject to China, took the official Chinese title of Chaosien (Tsiosen), or "Serenity of the Morning," in reference to its geographical position between the continent and Japan, the "Land of the Rising Sun." For the inhabitants themselves there seems to have been no recognised general name, although those of the southern division were commonly designated in Japanese history

by the expression *Kmaso*, or "Herd of Bears," yet to the people thus contemptuously spoken of, the natives of the archipelago were indebted for a knowledge of phonetic writing, for their peculiar Buddhism, for their porcelain and some other industries. Political relations had been established between the two countries certainly before the third century of the new era, when a large portion of the Peninsula was reduced by the Queen Regent Zingu. Since then the political ascendency has oscillated between China and Japan, and the substantial independence hitherto preserved by the Seul government must be mainly attributed to the rivalry of its powerful neighbours.

The Korean race is commonly regarded as a branch of the Mongolic stock. But it really seems to have resulted from the fusion of two distinct elements, the Mongolic and Caucasic, the former no doubt predominating. These are probably the Sien-pi and San-han of Chinese writers, from whose union the present inhabitants are said to have sprung. The San-han (San-kan, or "Three Kan") prevailed in the central parts, and were apparently Mongols, while the Sien-pi, numerous especially in the south, are, perhaps, the above-mentioned Kmaso of the Japanese historians, representing the fair type, whose presence is attested by overwhelming evidence.[1] These Kmaso made frequent predatory excursions in very ancient times to Kiusiu and Hondo, even forming permanent settlements on several parts of the coast. It is probable that they also reached the Riu-kiu (Lu-Chu) archipelago, and thus may the presence be explained of a certain fair element in Japan itself, and especially in the Riu-kiu group.

The Caucasic seem to have preceded the Mongol tribes in the peninsula. But they were gradually out-numbered and largely absorbed by the yellow stock, owing to constant migrations, especially from the Chinese provinces of Pechili and Shantung, throughout the fourth and fifth centuries of the vulgar era. It is also to be noted, that with every revolution or change of dynasty in China, the leaders of the defeated party usually took refuge with their followers in Korea. The Mongol stock was thus continually fortified, while the stream of Caucasic migration had ceased to flow from prehistoric times. Hence it is not surprising to find that the prevailing type is now distinctly Mongoloid. Of the nine or ten million inhabitants of the peninsula, probably five-sixths may be described as distinguished by broad and rather flat features, high cheek-bones, slightly oblique black eyes, small nose, thick lips, black and lank hair, sparse beard, yellowish or coppery complexion. The rest, representing the original Caucasic element, are characterised by rounded or oval features, large nose, light complexion, delicate skin, chestnut or brown hair, blue eyes, full beard. Between the two extremes there naturally occur several intermediate shades, all of which serve to explain the contradictory accounts of the missionaries and travellers speaking from actual observation, but generally ignorant of the original constituent elements and ethnical relations of the natives. All, however, agree in describing them as taller and more robust than the Chinese and Japanese, while fully equal to them in intelligence and moral qualities. They are a simple, honest, good-natured people, very frank, laborious, and hospitable, although hitherto compelled by their exclusive laws to treat strangers with suspicion and an outward show of unfriendliness. That this unfriendliness is merely assumed through fear of the authorities is abundantly evident from Capt. Basil Hall's account of his intercourse with the natives of the islands on the west coast.

Polygamy, although permitted, is little practised, in this respect resembling their peculiar Buddhism. But while some consideration is shown for the women, to whom the streets are given up in the evening, the gods are treated with the greatest contempt and indifference. In many towns there are no temples, nor even any domestic shrines. The images of gods and saints are mere wooden blocks set up like landmarks by the wayside, and inferior as works of art to the idols of the Polynesians. When one of these divinities gets blown down or rots away, it becomes the sport of the children, who amuse themselves by kicking it about amid the jeers and laughter of their elders. The religious sentiment, which may be said to culminate on the Tibetan plateau, seems to fade away west and east as it descends towards the Atlantic and Pacific seaboards.

Formerly masters of the Japanese in many arts, the Koreans at present cultivate few industries beyond the weaving and dyeing of linens and cottons, and the preparation of paper from the pulp of the *Brussonetia papyrifera*. Silks and tea are imported from China and Japan, and the exports to those countries have hitherto been mainly restricted to rice, raw silk, peltries, paper, tobacco, and ginseng.

But for the Chinese influences, which are of comparatively recent date, the speech of the Koreans would betray few indications of their mixed origin. Here as elsewhere the primeval languages have refused to intermingle; the Caucasic has perished, the Mongolic alone surviving. But the dispersion took place at such a remote period that, beyond a general morphological resemblance, few traces can now be detected of any fundamental unity of speech between the Koreans and the surrounding Mongoloid peoples. Like the Manchu, Mongolian, and Japanese, the Korean is a polysyllabic, agglutinating and untoned language, with a rich phonetic system, including as many as fourteen vowels and several gutturals and aspirates. In structure and vocabulary it seems to approach nearest to the Japanese, with which W. G. Aston has compared it.[1]

The national writing system is purely phonetic, consisting of a syllabic alphabet of great antiquity, but unknown origin. It is probably an offshoot of the common alphabetic system formerly diffused throughout East Asia and Malaysia, and scattered members of which are still found amongst the Lolo and Mosso of South-west China, the Tagalas and Bisayans of the Philippine Archipelago, the Korinchi, Rejangs, and Lampungs of Sumatra, and the Dravidians of Southern India. In Korea, however, the literati use the Chinese ideographic system exclusively, leaving the despised native writing to women and children. This alphabet may be seen in the first volume of Dallet's "Histoire de l'Église de Corée," which has hitherto been almost our only authority on the subject of the Korean language and literature. Last year, however, a large Korean-French dictionary and a Korean grammar in French were published in Tokio. There is also a "Korean Reader," by Ross (Shanghai, 1879), which the writer has not seen.

A. H. KEANE

[1] The language of Ernst Oppert is conclusive on this point: "Unter den vielen Thausenden, die mir während meiner Reisen im Lande zu Gesicht gekommen, habe ich sehr viele von so edeln und charaktervollem Gesichtsausdruck gefunden, dass man sie, wären sie nach unserer Sitte gekleidet gewesen, für Europäer hätte halten können. Auch unter den Kindern war eine grosse Anzahl durch *ihre schönen regelmässigen Züge und rosige Hautfarbe, ihr blondes Haar und die blauen Augen* so auffällig, dass sie von Europäischen Kindern kaum zu unterscheiden waren, und ich mich des Eindrucks ihrer Abstammung von Europäern nicht zu erwehren vermochte, bis bei weiterem Eindringen ins Land diese Erscheinung eine sehr häufige und alltägliche wurde und diese zuerst gefasste Ansicht als irrig zurückgewiesen werden musste." "Reisen Nach Korea. Leipzig, 1881, p. 8. However untrustworthy this writer may be in other respects, his evidence on this question may be unhesitatingly accepted, agreeing as it does with that of so many other observers.

[1] "It seems probable that the distance which separates Japanese from Korean is not greater than that which lies between English and Sanskrit. . . . Everything considered we may regard them as equally closely allied with the most remotely connected members of the Aryan family." (*Journal* of the Royal Asiatic Society for August, 1879.) In this awkwardly worded sentence the writer does not mean to say that Japanese and Korean are allied to Aryan, but that they are as nearly related to each other as are the most remotely connected members of the Aryan family to each other.